



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,883	04/26/2000	Michael Freed	99,918	1786

20306 7590 05/18/2004

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER

JACOBS, LASHONDA T

ART UNIT	PAPER NUMBER
----------	--------------

2157

DATE MAILED: 05/18/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/559,883

Applicant(s)

FREED ET AL.

Examiner

LaShonda T. Jacobs

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This Office Action is in response to Applicant's amendment filed on March 22, 2004. Claim 9 has been cancelled. Claims 1-8 and 10-29 are presented for further examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims **22-29** are rejected under 35 U.S.C. 102b as being anticipated by Matsuzono.

As per claim **22**, Matsuzono discloses a method of reducing message fragmentation between the data source and the data receiver connected by a network comprising the steps of:

- intercepting a first announcement of a first connection between said data source and said data receiver (abstract, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-67 and col. 4, lines 1-7); and
- predicting a determined maximum segment size of said first connection, wherein said determined maximum segment size is placed in a signal (abstract, col. 1, lines 51-57, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-48 and col. 5, lines 15-32).
- sending said signal with a no-fragment option set to said data source and said data receiver (abstract, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-67 and col. 4, lines 1-7).

- storing said determined maximum segment size, whereupon said determined maximum segment size results from a signal response having a maximum transmission unit that is no larger than a maximum transmission unit of said network (abstract, col. 1, lines 51-57, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-48 and col. 5, lines 15-32).

As per claim **23**, Matsuzono discloses the invention substantially as claimed.

- wherein said determined maximum segment size is iteratively predicted until a message maximum transmission unit is no larger than a maximum transmission unit of said network.

As per claim **24**, Matsuzono discloses the invention substantially as claimed.

- wherein said no-fragment option is set in an IP header within said signal.

As per claim **25**, Matsuzono discloses an apparatus for reducing message fragmentation between a data source and a data receiver connected by a network comprising:

- a network device connected to the network, wherein said network device changes a maximum segment size to a determined maximum segment size used in data transmission between said data source and said data receiver (abstract, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-67 and col. 4, lines 1-7); and
- a storage device connected to said network device for storing said determined maximum segment size for data transmitted between said data source and said data receiver; wherein said network device stores said determined maximum segment sizes in accordance to data communication between said data source and data receiver (abstract, col. 1, lines 51-57, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-48 and col. 5, lines 15-32).

As per claim **26**, Matsuzono discloses:

- wherein said announcement comprises a first message (abstract, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-67 and col. 4, lines 1-7); and
- wherein said first message comprises a set SYN bit (abstract, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-67 and col. 4, lines 1-7).

As per claim **27**, Matsuzono discloses:

- wherein the network device iteratively predicts said determined maximum segment size (abstract, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-67 and col. 4, lines 1-7).

As per claim **28**, Matsuzono discloses:

- wherein said storage device comprises a database (col. 3, lines 6-33 and col. 4, lines 31-45).

As per claim **29**, Matsuzono discloses:

- wherein said network device comprises a gateway (router) device (col. 2, lines 45-67 and col. 3, lines 1-5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 and 10-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeder et al (hereinafter, "Schroeder", 6,327,626) in view of Matsuzono.

As per claim 1, Schroeder discloses a method for changing a maximum segment size for a connection between a data source and a data receiver on a network comprising the steps of:

- receiving an announcement of a first connection between said source and said data receiver (abstract, col. 2, lines 52-62, and col. 3, lines 10-34); and
- changing said maximum segment size in said announcement of said first connection to a determined maximum segment size (abstract, col. 1, lines 23-45, lines 52-67, and col. 3, lines 10-34).

However, Schroeder does not explicitly disclose:

- wherein the determined maximum segment size reduces message fragmentation.

Matsuzono discloses a data communication mechanism capable of producing data packet having an optimal segment size in communication system comprising:

- wherein the determined maximum segment size reduces message fragmentation (abstract, col. 2, lines 45-67, col. 3, lines 1-5 and lines 34-48).

Given the teaching of Matsuzono, it would have been obvious to one of ordinary skill in the art to modify Schroeder by including an optimal segment size determinator to determine the maximum segment size for the data transmission in order to reduce message fragmentation.

As per claim 2, Schroeder further discloses:

- recalculating a checksum of said announcement (col. 1, lines 52-57, col. 3, lines 10-34, lines 55-67, and col. 4, lines 5-23).

As per claim 3, Schroeder discloses:

Art Unit: 2157

- wherein said announcement comprises a first message of a data stream in said connection (col. 2, lines 63-67, and col. 3, lines 1-34).

As per claim 6, Schroeder discloses:

- wherein changing said maximum segment size comprises changing said maximum segment size in a TCP header in said announcement (col. 1, lines 23-45, lines 62-67, col. 3, lines 10-34, lines 55-67, and col. 4, lines 5-23).

As per claim 7, Schroeder discloses:

- wherein said determined maximum segment size is preprogrammed into a database (col. 1, lines 23-45, col. 3, lines 63-67, col. 3, lines 1-34, lines 55-67, and col. 4, lines 5-23).

As per claim 10, Schroeder discloses:

- wherein said determined maximum segment size avoid re-assembly of fragments (col. 1, lines 38-45, and col. 3, lines 18-27).

As per claim 11, Schroeder discloses a method of reducing message fragmentation for a connection between a data source and a data receiver on a network comprising the steps of:

- resetting said first connection, wherein resetting said first connection initiates a second connection (at least implicitly)(col. 3, lines 10-34); and
- placing said maximum segment size into an announcement of said second connection (col. 1, lines 23-45, lines 62-67, col. 3, lines 10-34, lines 55-67, and col. 4, lines 5-23).

However, Schroeder does not explicitly disclose:

- receiving a first message fragment of a first connection between said data source and said data receiver; and

- storing a maximum segment size of said first message fragment of said first connection, wherein said maximum segment size exists in accordance with said first message fragment.

Matsuzono discloses:

- receiving a first message fragment of a first connection between said data source and said data receiver (abstract, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-67 and col. 4, lines 1-7); and
- storing a maximum segment size of said first message fragment of said first connection, wherein said maximum segment size exists in accordance with said first message fragment (abstract, col. 1, lines 51-57, col. 2, lines 45-67, col. 3, lines 1-5, lines 34-48 and col. 5, lines 15-32).

Given the teaching of Matsuzono, it would have been obvious to one of ordinary skill in the art to modify Schroeder by including an optimal segment size determinator to determine and store the maximum segment size for a data packet in order to transmit messages across a network to perform a data communication among the computers.

As per claim 12, Schroeder further discloses:

- recalculating a checksum of said announcement of said second connection (col. 1, lines 52-57, col. 3, lines 10-34, lines 55-67, and col. 4, lines 5-23).

As per claim 13, Schroeder discloses the invention substantially as claimed.

- wherein said first message fragment comprises a first message of a data stream in said connection (col. 2, lines 63-67, and col. 3, lines 1-34).

As per claims 4 and 14, Schroeder discloses:

- wherein said announcement comprises a set SYN bit (col. 3, lines 10-34, and lines 55-67).

As per claims **5** and **15**, Schroeder discloses:

- wherein said first connection is one of any virtual connections utilizing TCP/IP between said data source and said data receiver col. 2, lines 63-67, and col. 3, lines 1-9).

As per claims **8** and **21**, Schroeder discloses:

- wherein said data source comprises customer premise equipment, and wherein data receiver comprises customer premise equipment (col. 2, lines 52-67, and col. 3, lines 45-54).

As per claim **16**, Schroeder discloses:

- wherein said second connection is a connection following said first connection (col. 3, lines 10-34).

As per claim **17**, Schroeder discloses:

- wherein storing said maximum segment size comprises storing said maximum segment size in a database (col. 1, lines 23-45, col. 3, lines 63-67, col. 3, lines 1-34, lines 55-67, and col. 4, lines 5-23).

As per claim **18**, Schroeder discloses:

- wherein resetting said first connection comprises closing said first connection by setting a RST bit (at least implicitly) (col. 3, lines 10-34).

As per claim **19**, Schroeder discloses:

- wherein resetting said first connection initiates said second connection (at least implicitly) (col. 3, lines 10-34).

As per claim **20**, discloses:

- wherein placing said maximum segment message size into said announcement of said second connection comprises placing said maximum segment message into a TCP header within said announcement of said second connection (col. 1, lines 23-45, lines 62-67, col. 3, lines 10-34, lines 55-67, and col. 4, lines 5-23).

Response to Arguments

5. Applicant's arguments with respect to claims 1-8 and 10-29 have been considered but are moot in view of the new ground(s) of rejection.

The Office notes the following arguments:

a. The Ramanna reference fails to meet the guidelines of prior art.

In response to:

(a) Examiner agrees and has withdrawn the reference.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShonda T. Jacobs whose telephone number is 703-305-7494.

The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 703-308-7562. The fax phone numbers for the

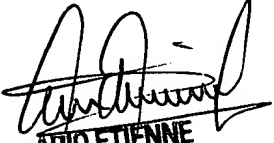
Art Unit: 2157

organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

LaShonda T. Jacobs
Examiner
Art Unit 2157

ltj
May 8, 2004


ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100